

PATENT CLAIMS

1. Potentiometric sensor, comprising:
an elementary sensor (3) for registering a potentiometric parameter; and an interface for issuing a potentiometric-parameter-dependent signal to a superordinated unit, especially a transmitter (8); characterized in that the potentiometric sensor has a digital data memory (6), which is permanently connected with the elementary sensor (3).

2. Potentiometric sensor as claimed in claim 1, further comprising an analog-digital-converter (5) for converting an analog signal issued from the elementary sensor (3) into a digital signal.

3. Potentiometric sensor as claimed in claim 1 or 2, wherein the data memory elementary sensor stores one or more of the following items of information:

The calibration data of the sensor; the sensitivity of the sensor determined at a first temperature, especially 25°C; the asymmetry potential determined at 25°C; the temperature offset; logistical information; the serial number of the elementary sensor; the temperature range of application; the pH range of application; the extreme values of the operating temperature; the extreme values of the operating pH; the identification of a technician; the service life; the isothermal point of intersection; the Sensor Check System status; at least one pH measured value; at least one redox measured value, one or more temperature measured values.

4. Potentiometric sensor as claimed in claim 3, wherein the data memory (6) stores historical data over a moving time-interval of sensor operation.

5. Potentiometric sensor as claimed in Claim 3, wherein the data memory (6) stores event-dependent historical data.

6. Potentiometric sensor as claimed in one of the preceding Claims, further comprising a microprocessor (4) for control of the data memory (6) and/or control of the interface (7) for communication with the superordinated unit (8).

7. Potentiometric sensor as claimed in one of the claims 1 through 6, wherein control of the data memory (6), wherein the data memory is connected such that it can be controlled via the interface (7) from the superordinated unit (8).

8. Potentiometric sensor as claimed in one of the preceding claims, wherein the potentiometric sensor (1) is detachably connected with a housing of the superordinated unit (8) via a mechanical coupling, which includes the interface.

9. Potentiometric sensor as claimed in the claims 1 to 8, wherein the potentiometric sensor (1) is, by means of a mechanical coupling which includes the interface, detachably connected with a cable which communicates with the superordinated unit.

10. Potentiometric sensor as claimed in one of the preceding claims, wherein the interface (7), in addition to data communication, also ensures the power supply of the potentiometric sensor.

11. Potentiometric sensor as claimed in one of the preceding claims, wherein the interface is a non-galvanic interface.

12. Potentiometric sensor as claimed in one of the preceding claims, wherein the interface is an inductive interface.

13. Potentiometric sensor as claimed in one of the claims 1 through 10, wherein the interface is a galvanic interface.

14. Potentiometric sensor as claimed in one of the preceding claims, further comprising a temperature sensor.

15. Potentiometric sensor as claimed in one of the preceding claims, wherein the potentiometric sensor is a pH-sensor, and the elementary sensor comprises a pH-electrode.

16. Potentiometric sensor as claimed in one of the claims 1 through 14, wherein the potentiometric sensor is a redox-sensor, and the elementary sensor comprises a redox-electrode.

17. Potentiometric transmitter (8) for the issuing of at least one measurement signal representing a potentiometric parameter, characterized in that the transmitter (8) has an interface (9) for operation and for data exchange with the potentiometric sensor (1) as claimed in one of the preceding claims.